

Sir/Madam:

In response to the Office Action mailed 6/16/2008, please amend the application as follows and consider the remarks set forth below.

**Amendments to the Claims** begin on page 2 of this paper.

**Remarks** begin on page 10 of this paper.

#### **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

#### **LISTING OF CLAIMS**

What is claimed is:

1. (currently amended) An arteriovenous shunt comprising:

a. an arterial graft comprising a body, a lead end and a terminal end, said lead end

being configured for subcutaneous connection to an artery by anastomosis, wherein said

Serial No. 10/812,380

Page 2 of 25

arterial graft has a first diameter; and

b. a single lumen venous outflow catheter comprising an intake end and depositing end, said depositing end being configured for insertion through a vein into the right atrium of the heart, wherein said venous outflow catheter has a second diameter different from said first diameter; and

c. a cylindrical cuff operable to direct passage of blood from said arterial graft to said venous outflow catheter, said cuff comprising an inlet in blood communication with an outlet:

i. said inlet being disposed about and connected to said terminal end of said

arterial graft; and

ii. said outlet being disposed about and connected to said intake end of said

venous outflow catheter;

wherein said cuff ~~defines a graded inside diameter to provide~~ provides a secure fit for

said arterial graft first diameter and said venous outflow catheter second diameter.

2. (currently amended) The arteriovenous shunt of claim 1 wherein said arterial graft

Serial No. 10/812,380

Page 3 of 25

is made of a biocompatible ~~flexible~~ material.

3. (currently amended) The arteriovenous shunt of claim 2, ~~wherein said biocompatible flexible material is polytetrafluoroethylene (PTFE) or other~~ is made of biocompatible material.

~~polyurethane.~~

4. (original) The arteriovenous shunt of claim 1, wherein said arterial graft has a diameter from about 2 mm to about 8 mm and a length from about 20 cm to about 60 cm.

5. (original) The arteriovenous shunt of claim 4, wherein said arterial graft has a diameter of from about 6 mm to about 8 mm and a length of about 40 cm.

6. (original) The arteriovenous shunt of claim 1, wherein said artery is the brachial, axillary, femoral or external iliac artery.

7. (currently amended) The arteriovenous shunt of claim 1, wherein said cuff is made of ~~polytetrafluoroethylene or polyethylene terephthalate~~ or other biocompatible material.

8. (original) The arteriovenous shunt of claim 1, wherein said venous outflow catheter has a diameter from about 1 mm to about 7 mm and a length of from about 20 cm to about 80 cm.

Serial No. 10/812,380  
Page 4 of 25

9. (original) The arteriovenous shunt of claim 1, wherein said venous outflow catheter has a diameter from about 5 mm to about 7 mm and a length of from about 40 cm to about 60 cm.

10. (currently amended) The arteriovenous shunt of claim 1, wherein said venous outflow catheter is made of ~~polyurethane or other~~ biocompatible materials.

11. (original) The arteriovenous shunt of claim 1, wherein said vein is the cephalic, axillary, jugular, femoral or external iliac vein.

12. (previously presented) The arteriovenous shunt of claim 1, wherein said venous outflow catheter has a diameter of about 1 mm smaller than said arterial graft.

13. (currently amended) A system for performing hemodialysis on a patient comprising:

a. an arteriovenous shunt comprising:

i. an arterial graft comprising a body, a lead end and a terminal end, said lead end being configured for subcutaneous connection to an artery by anastomosis, wherein said arterial graft has a first diameter; and

Serial No. 10/812,380

Page 5 of 25

ii. a single lumen venous outflow catheter comprising an intake end and depositing end, said depositing end being configured for insertion through a vein into the right atrium of the heart, wherein said venous outflow catheter has a second diameter different from said first diameter; and

iii. a cylindrical cuff operable to direct passage of blood from said arterial graft to said venous outflow catheter, said cuff comprising an inlet with blood communication with an outlet:

1. said inlet being disposed about and connected to said terminal end of said subcutaneous graft; and

2. said outlet being disposed about and connected to said intake end of said venous outflow catheter; wherein said cuff ~~defines a graded~~

~~inside diameter to provide~~ provides a secure fit for said arterial graft first diameter and said venous outflow catheter second diameter;

14. (previously presented) The system according to claim 13, wherein said venous outflow catheter has a diameter of about 1 mm smaller than said arterial graft.

Serial No. 10/812,380  
Page 6 of 25

15. (original) The system according to claim 13, wherein said artery is the brachial, axillary, femoral or external iliac artery.

16. (original) The system according to claim 13, wherein said vein is the cephalic, axillary, jugular, femoral or external iliac vein.

17. (currently amended) A method of performing hemodialysis on a patient comprising:

a. surgically inserting an arteriovenous shunt into a patient, wherein said arteriovenous shunt comprises:

i. an arterial graft comprising a body, a lead end and a terminal end, said lead

end being configured for subcutaneous connection to an artery by

anastomosis, wherein said arterial graft has a first diameter; and

ii. a single lumen venous outflow catheter comprising an intake end and

depositing end, said depositing end being configured for insertion through a

vein into the right atrium of the heart, wherein said venous outflow catheter

has a second diameter different from said first diameter; and

iii. a cylindrical cuff operable to direct passage of blood from said arterial graft

to said venous outflow catheter, said cuff comprising an inlet in blood

Serial No. 10/812,380

Page 7 of 25

communication with an outlet:

1. said inlet being disposed about and connected to said terminal end of

said arterial graft; and

2. said outlet being disposed about and connected to said intake end of

said venous outflow catheter, wherein said cuff ~~defines a graded~~

~~inside-diameter to provide~~ provides a secure fit for said arterial graft first

diameter and said venous outflow catheter second diameter;

b. connecting said arterial graft to a hemodialysis apparatus;

c. collecting blood from the patient through said arterial graft;

d. passing said blood through the hemodialysis apparatus;

e. collecting purified blood from hemodialysis apparatus; and

f. transmitting said purified blood through said cuff into said venous outflow catheter

which is located in the right atrium and the blood is directly deposited into the right

atrium.

18. (currently amended) The method according to claim ~~16~~ 17 wherein said venous

Serial No. 10/812,380

Page 8 of 25

outflow catheter has a diameter of about 1 mm smaller than said arterial graft.

19. (currently amended) The method according to claim ~~16~~17, wherein said artery is the brachial,

axillary, or femoral, external iliac artery.

20. (currently amended) The method according to claim 16, wherein said the vein is  
PAGE 11/11 \* RCVD AT 4/30/2009 12:47:43 PM [Eastern Daylight Time] \* SVR:USPTO-EFXRF-5/6 \* DNIS:2738300 \* CSID: \* DURATION (mm-ss):05-08

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